

Notice of Allowability	Application No.	Applicant(s)	
	10/810,137	NAIR ET AL.	
	Examiner	Art Unit	
	Gregory F. Cunningham	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/24/2005.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>9/28 & 9/30/2004</u> 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|---|---|

DETAILED ACTION

1. This action is responsive to amendment filed 06/24/2004.
2. The disposition of the claims is as follows: claims 1-21 are pending in the application. Claims 1 and 11 are independent claims. Claim 21 has been cancelled.

Drawings

3. In view of amended drawings and applicant's comments, drawing rejections are withdrawn.

Examiner's Amendment

4. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael J. Ferrazano (Registration number 44,105) on 9/13/2005.

The application has been amended as follows:

- A. The third line of independent claim 1 has been changed from:
"separating input data into luma and chroma components, if necessary;"
to now read as:
"separating input data into luma and chroma components;"
- B. The third line of independent claim 11 has been changed from:

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“computer code for separating input data into luma and chroma components, if necessary;”

to now read as:

“computer code for separating input data into luma and chroma components;”

(Note: The parentheses are for identifying the language to be amended and therefore are not to be used in the amended text.)

5. The following changes to the drawings have been approved by the examiner and agreed upon by applicant:

A. In the drawings, figures 4, 5 and 6 have two figures each and therefore need to be designated as Fig. A and Fig. B accordingly.

B. The specification needs to be amended to reflect the changes in figures 4, 5 and 6 (Fig. A and Fig. B).

In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

Allowable Subject Matter

5. Claims 1-20 are allowed.

The following is a statement of reasons for the indication of allowable subject matter and was presented in prior office action and repeated here:

Applicant's independent claims 1 and 11 stand novel over the related prior art. For instance, in the related art of Zhao et al. (U.S. Patent Number 6,181,321 B1), it can be seen that the color component represented by the histograms is intensified after processing. That is, the

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center of the intensity distribution for the color component is shifted from a low intensity level to a mid-level value. Color cast can be removed by strengthening the weak color components, as well as by weakening the strong color components. In addition, other than the very darkest and brightest pixels, contrast is enhanced in the image. That is, the band of intensities in the original image from $x_{sub.0}$ to $x_{sub.1}$ is mapped to the interval from 0 to 255. Because information is mapped to a wider range of intensity levels, contrast within that region is enhanced.

Then consider the related art of Kuwata et al. (U.S. Patent Number 6,151,410), where image processing apparatus comprises at least a picture-element count-distribution detecting means for detecting a picture-element-count distribution of each color component, an analogy-degree judging means for judging the degree of analogy among picture-element-count distributions of color components, an offset correcting means for identifying slippages among color components from the picture-element-count distributions in order to make the color components uniform, a contrast correcting means for identifying slippages in degree of contrast among color components from the picture-element-count distributions in order to make the contrasts of the color components uniform and a brightness correcting means for identifying slippages in brightness among color components from the picture-element-count distributions in order to make the brightness amounts of the color components uniform.

However both Zhao and Kuwata when compared to the instant invention by Nair et al., do not employ a configuration for adaptive color contrast of an image displayed on a display device, comprising: separating input data into luma and chroma components, if necessary; collecting luma distribution data; analyzing the luma distribution data; generating appropriate contrast control response based upon the analyzed luma distribution data; modifying the

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incoming luma component based upon the contrast control response; analyzing the modified luma component; and generating a non-linear chroma correction factor based upon the analyzed modified luma component, as claimed in independent claims 1 and 11.

Therefore as claimed by the combined elements of independent claims 1 and 11, the cited references and prior art of record lack separately and in combination the elements of said claims. Furthermore since claims 2-10 and 12-20 depend from allowable independent claims 1 and 11, respectively, these dependent claims are therefore also allowed.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Responses

7. Responses to this action should be mailed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231. If applicant desires to fax a response, (703) 872-9306 may be used for formal communications.

Inquiries

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory F. Cunningham whose telephone number is (571) 272-7784.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

On July 15, 2005, the Central FAX Number was changed. This new Central FAX Number is the result of relocating the Central FAX server to the Office's Alexandria, Virginia campus.

Most facsimile-transmitted patent application related correspondence is required to be sent to the Central FAX Number. To give customers time to adjust to the new Central FAX Number, faxes sent to the old number (703-872-9306) will be routed to the new number until September 15, 2005. After September 15, 2005, the old number will no longer be in service and **571-273-8300** will be the only facsimile number recognized for "centralized delivery".

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Greg Cunningham

Examiner

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9/13/2005



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SUPERVISORY PATENT EXAMINER
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